10/19 small group

ASSETS FOR EARLY STAGE 1 SCENARIO DEVELOPMENT

ASSET	DESCRIPTION OF ASSET APPLICATION FOR SCENARIO DEVELOPMENT
SOURCE SHIFTING	♦ MWD: Shift delivery of 60,000 af (2000 Ops), could continue at some level through Stage 1
GROUNDWATER BANKING SOUTH OF THE DELTA, GROUNDWATER SUBSTITUTION, CROP SHIFTING, CONSERVATION, RECLAMATION	♦ Potential for 100 taf in Kern Water Bank on annual basis for three years in first years of a drought ♦ Vidler/Semitropic groundwater storage bank capacity (49 taf/100 taf) ♦ Kern groundwater substitution (90 taf) ♦ Crop shifting in Delta (opportunistic shift to less water intensive crops during certain time periods) ♦ General opportunistic shift of surface water users to groundwater ♦ Conservation/reclamation project benefits?
MARKETS PURCHASE, OPTION, LEASE (SHORT-TERM, LONG-TERM)	♦ Purchase Upstream water for multiple purposes ♦ Acquire water in Sacramento Valley? San Joaquin eastside? ♦ Acquire water in-Delta and in export area ♦ Acquire PG&E reoperation water ♦ Acquire Vidler/Semitropic water? ♦ Integrate water acquired for ERP flows with EWA/WMS ♦ Acquire options north/south of Delta
LAKE ALMANOR RELEASES (FEATHER RIVER)	♦ Approximately 100 taf on annual basis March-May flows

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E-037915

INCREASED BANKS PUMPING CAPACITY/ACCESS TO UNUSED DELTA PUMPING CAPACITY	♦ Increase pumping capacity by 500 cfs in year 2000 (70,000-90,000 af) ♦ Increase pumping capacity to 6600 cfs to 8500 cfs July-September ♦ 6600 cfs + 1/3 San Joaquin River flow November-March
FLEXING E/I RATIO	♦ Shift averaging period from 14 days to 3 days; or flex the ratio
RESERVOIR REOPERATION	♦ Coordinate/optimize operation of reservoirs to increase overall system flexibility (look for small reservoir opportunities)
ACCESS TO SURPLUS CVP/SWP STORAGE CAPACITY	♦ Access to San Luis and upstream reservoirs
ACCESS TO UNUSED NON-PROJECT STORAGE	♦ Investigate potential for access on Yuba and SJ tributaries on no-harm basis
ALTER FLOOD CONTROL DIAGRAMS	♦ May be limited to small scale efforts on the San Joaquin and Stanislaus Rivers ♦ Pursue other small-scale projects in Stage 1 in addition to above efforts
PUMPING TO STORAGE	♦ Good general strategy for expansion of conjunctive use opportunities by optimizing use of groundwater/surface water ♦ Would require additional facilities to maximize use otherwise benefits could be relatively small; could result in spilling of stored water
INTERTIE	♦ 400cfs capacity ♦ Need to determine real benefit of intertie when linked to other assets - staging issue

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SHIFTING REFUGE SUPPLIES	Investigate the following: ♦ Diversify sources of water for refuges ♦ Borrow acquired refuge water for EWA ♦ Increase conveyance efficiency ♦ Use refuges as small-scale storage projects
ACQUISITION OF IN-DELTA ISLANDS FROM WILLING SELLERS	♦ Reduce application and subsequent run-off/seepage of pesticides
MANAGE DISCHARGES FROM IN-DELTA ISLANDS	♦ Relocate/reroute Delta agricultural drains or hold water for discharge on outgoing tides or for high flow periods to manage salinity, selenium, TDS
DELTA CROSS CHANNEL	♦ Operate to freshen Delta and to improve export water quality
CONTROL ALGAL GROWTH IN CLIFTON COURT FOREBAY	♦ Needs definition

POTENTIAL ASSETS FOR LATE STAGE 1 SCENARIO DEVELOPMENT

ASSET	ASSET DESCRIPTION
INCREASED BANKS PUMPING CAPACITY	Increase pumping to 10,300 cfs
EFFICIENCY AG/URBAN RECLAMATION	◆ Ultra Low Flow Toilet Program: Could result in gains of 120 taf/yr (implementation of state-wide program) ◆ Implementation of various Stage 1 projects/programs (? taf)
GROUNDWATER SUBSTITUTION PROJECTS	◆ Southern Sacramento County (near Galt): potential to fill pumping depression – at least 300 TAF ◆ East San Joaquin Basin: potential storage capacity up to 3 MAF ◆ Gravelly Ford: approximate capacity 100-200 TAF ◆ Madera Ranch: approximate capacity 300-400 TAF
GROUNDWATER STORAGE	◆ Drought Water Bank: Butte Basin ◆ Yolo County? ◆ West Central Basin?
SHASTA DAM EXPANSION	◆ Raise Shasta Dam (6ft) to increase storage capacity (290 taf)
IN-DELTA STORAGE	◆ Potential use of in-Delta islands
BLENDING	◆ Use available supplies to reduce diversion at some periods; blend with higher quality water to improve water quality
FLEX STANDARDS	◆ Potential varies depending on regulatory process, standard, and real-time environmental conditions

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